SEQUENCE LISTING

COPY

<110> Sale, Julian E.
Neuberger, Michael S.
Cumbers, Sarah J.

<120> Method of Generating Diversity

<130> 18396/2005

<140> US 09/879,813

<141> 2001-06-11

<150> 09/828,717

<151> 2001-06-04

<150> PCT/GB99/03358

<151> 1999-10-08

<160> 87

<170> PatentIn version 3.1

<210> 1

<211> 24

<212> DNA

<213> Artificial

<220>

<221> primer

<222> (1)..(24)

<223> oligonucleotide primer

<400> 1

gcggtacctg aggagacggt gacc 24

<210> 2

<211> 30

<212> DNA

<213> Artificial

<220>

<221> primer

<222> (1)..(24)

<223> oligonucleotide primer

<220>

<221> primer

<222> (1)..(30)

<223>

<400> 2

ccccaagctt cccaggtgca gctacagcag 30

<210> 3

<211> 30

<212> DNA

<213> Artificial

<220>

<221> primer

<222> (1)..(30)

<223> oligonucleotide primer

<400> 3

ccccggtacc agatgagctt ggacttgcgg 30

<210> 4

<211> 35

<212> DNA

<213> Artificial

<220>

<221> primer

<222> (1)..(35)

<223> oligonucleotide primer

<400> 4

ccccaagctt cgggagtgca tccgccccaa ccctt 35

<210> 5

<211> 30

<212> DNA

<213> Artificial

<220>

<221> primer

<222> (1)..(30)

<223> oligonucleotide primer

<400> 5

ccccaagctt cccagtctgc cctgactcag 30

<210> 6

<211> 30

<212> DNA

<213> Artificial

<220>

<221> primer

<222> (1)..(30)

<223> oligonucleotide primer

<400> 6

cccctctaga ccacctagga cggtcagctt 30

<210> 7

<211> 29

<212> DNA

<213> Artificial

<220>

<221> primer

<222> (1)..(29)

<223> oligonucleotide primer

<400> 7

ggactgcagt caggttcagt ggcagtggg 29

<210> 8

<211> 31

<212> DNA

<213> Artificial

<220>

<221> primer

<222> (1)..(31)

<223> oligonucleotide primer

<400> 8

caggagctcg cggggccgtc actgattgcc g 31

<210> 9

<211> 34

<212> DNA

<213> Artificial

<220>

<221> primer

<222> (1)..(34)

<223> oligonucleotide primer

<400> 9

gcgcaagctt ccccagcctg ccgccaagtc caag 34

<210> 10

<211> 26

<212> DNA

<213> Artificial

<220>

<221> primer

<222> (1)..(26)

<223> oligonucleotide primer

<400> 10

ggaattctca gtgggagcag gagcag 26

<210> 11

<211> 27

<212> DNA

<213> Artificial

<220>

<221> primer

<222> (1)..(27)

<223> oligonucleotide primer

<400> 11

cgggagctcc gtcagcgctc tctgtcc 27

<210> 12

<211> 29

<212> DNA

<213> Artificial

<220>

<221> primer

<222> (1)..(29)

<223> oligonucleotide primer

<400> 12

ggggtacccg gaggagacga tgacttcgg 29

<210> 13

<211> 23

<212> DNA

<213> Artificial

<220>

<221> primer

<222> (1)..(23)

<223> oligonucleotide primer

<400> 13

gcagttcaag aattcctcgc tgg 23

<210> 14

<211> 24

<212> DNA

<213> Artificial

<220>

<221> primer

<222> (1)..(24)

<223> oligonucleotide primer

<400> 14

ggagccatcg atcacccaat ccac 24

<210> 15

<211> 341

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)..(341)

<223>

<400> 15

tggggcgcag gactgttgaa gccttcggag accctgtccc tcacctgcgg tgtttatggt 60

gggtccttca gtggttacta ctggagctgg atccgccagc ccccagggaa ggggctggag 120

tggattgggg aaatcaatca tagtggaagc accaactaca acccgtccct caagagtcga 180

gtcaccatat cagtagacac gtccaagaag cagctctccc tgaagttgag ctctgtgaac 240

gccgcggaca cggctgtgta ttactgtgcg agagttatta ctagggcgag tcctggaaca 300

gacgggaggt acggtatgga cgtctggggc caagggacca c 341

<210> 16

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> A62

Sequence 'tcag tgg' is deleted

<400> 16

ggtcctttac ta 12

<210> 17

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> A 120

Nucleotide 'T' at position 7 is deleted

<400> 17

gtggatgggg aa 12

<210> 18

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> A276

Nucleotides TGTGNNNNNNNNNNNNNNNNNTACT are deleted

N = nucleotides A, T, G or C

<400> 18

tattacaggg cg 12

<210> 19

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> A306

Nucleotide 'C' at position 7 is deleted

<400> 19

gaggtaggta tg 12

<210> 20

<211> 11

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> B93

Nucleotide G at position 7 is deleted

<400> 20

ccgccacccc a 11

<210> 21

<211> 11

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> B98

Nucleotide 'C' at position 7 is deleted

<400> 21

agcccaggga a 11

<210> 22

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> B227

The sequence 'CTGTG' is deleted

<400> 22

tgagctaacg cc 12

<210> 23

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> C82

The sequence TGGA.37bp.GAGT is deleted

<400> 23

tggagtggat tg 12

<210> 24

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> C209

The sequence 'tctt ccctgaagtt' is deleted

<400> 24

agcaccgagc tc 12

<210> 25

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> C187

The sequence 'GTACACACGTCCAAGA' is deleted

<400> 25

atatcaagca cc 12

<210> 26

<211> 11

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> U26

Nucleotides 'CC' are deleted

<400> 26

cggagactgc c 11

<210> 27

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> U199

Nucleotides 'AAG' are deleted

<400> 27

acgtccaagc ac 12

<210> 28

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> U208

Nucleotide 'C' at position 7 is deleted.

<400> 28

aagcagtttc tc 12

<210> 29

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> U268

The sequence 'GTTATTA' is deleted

<400> 29

gcgagactag gg 12

<210> 30

<211> 34

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (17)..(29)

<223> A255

The sequence 'CGAGAGTTATTA' is inserted between positions 17 and 29 and is a duplication of nucleotides between positions 5 and 16.

<400> 30

tgtgcgagag ttattacgag agttattact aggg 34

<210> 31

<211> 166

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (84)..(161)

<223> A113 Nucleotides 'agtggat tgggnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnnn n nnnnnnnnnn nnnnnnnnnn nnnnnntatc' are inserted between positions 84 and 161 and duplicate nucleotides between positions 7 and 83 .

<220>

<221> misc_feature

<222> (18)..(80)

<223> N= nucleotide a,g,c or t

<220>

<221> misc_feature

<222> (95)..(157)

<223> N= nucleotide a,g,c or t

<400> 31

ggctggagtg gattgggnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 60

nnnnnnnnnn nnnnnnnnnt atcagtggat tgggnnnnnn nnnnnnnnnn nnnnnnnnnn 120

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnntatc agtaga 166

<210> 32

<211> 30

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (16)..(25)

<223> U43

The sequence 'GGTGTTTAT' is inserted and duplicates sequences be tween positions 7 and 16.

<400> 32

acctgcggtg tttatggtgt ttatggtggg 30

<210> 33

<211> 34

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (16)..(29)

<223> U318

The sequence 'ACGTCTGGGGCCA' is inserted and duplicates sequence s between positions 3 and 15

<400> 33

ggacgtctgg ggccaacgtc tggggccaag ggac 34

<210> 34

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> D27

The sequence 'CCTCA' is deleted

<400> 34

ggagaccctg cg 12

<210> 35

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> D31

Nucleotide 'A" is deleted at positions 7

<400> 35

accctccctg cg 12

<210> 36

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> D219

Nucleotide 'G' is deleted at position 7.

<400> 36

cctgaattga gc 12

<210> 37

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> D150

Nucleotide 'C' is deleted at position 7

<400> 37

caccaataca ac 12

<210> 38

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> D109

Nucleotide 'C' at position 7 is deleted

<400> 38

aaggggtgga gt 12

<210> 39

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> E28

The sequence 'CCTGC' is deleted.

<400> 39

ccctcaggtg tt 12

<210> 40

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> E81

The sequence "ttgg annnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnntg ga g' is deleted

<400> 40

ctggagtgga tt 12

<210> 41

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> E88

The sequence 'cgcc' is deleted

<400> 41

tggatcagcc cc 12

<210> 42

<211> 11

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (6)..(6)

<223> E92

Nucleotide 'g' at position 6 is deleted

<400> 42

cgccaccccc a 11

<210> 43

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> E136

The sequence 'AGTGGAAGCACCAACTA' is deleted

<400> 43

aatcatcaac cc 12

<210> 44

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> F66

The sequence 'TGGTTACTACT' is deleted

<400> 44

cttcacggag tt 12

<210> 45

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(13)

<223> F183

Nucleotides 'ATCAGTA' are deleted between postions 7 and 13

<220>

<221> misc_feature

<222> (7)..(13)

<223> F183

The sequence 'ATCAGTA' is deleted

<400> 45

tatcatacac gt 12

<210> 46

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> F215

The sequence TGAA.18bp.CGCC is deleted

<400> 46

tctcccgcgg ac 12

<210> 47

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> F267

Nucleotides 'AG' between are deleted.

<400> 47

tgcgagttat ta 12

<210> 48

<211> 102

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (54)..(99)

<223> D55

The sequence 'gtggnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnna ggg' is inserted between positions 54 and 99 and duplicates sequences between positions 5 and 53

<220>

<221> misc_feature

<222> (9)..(50)

<223> N = nucleotides A, T, G or C

<220>

<221> misc_feature

<222> (58)..(95)

<223> N = nucleotides A, T, G or C

<400> 48

tatggtggnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnna ggggtggnnn 60

nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnagggaa gg 102

<210> 49

<211> 55

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (29)..(50)

<223> D123

The sequence 'GGAAATCAATCATAGGGAAGC' is inserted between position

s 29 and 50 and duplicates sequences between 7 and 28

<400> 49

gattggggaa atcaatcata gtggaagcgg aaatcaatca tagggaagca ccaac 55

<210> 50

<211> 44

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (23)..(41)

<223> F85

The sequence' ggatnnnnnnnnnnccca' is inserted between positions 2

3 and 41 and duplicates the sequence between positions 4 and 22

<220>

<221> misc_feature

<222> (9)..(19)

<223> N = nucleotides A, T, G or C

<220>

<221> misc_feature

<222> (27)..(37)

<223> N = nucleotides A, T, G or C

<400> 50

agttggatnn nnnnnnnncc caggatnnnn nnnnnnccca ggga 44

<210> 51

<211> 17

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(12)

<223> D3

The sequence GACCC between positions 7 and 12 replace the sequenc

e AGGACTGT

<400> 51

ggtcgcgacc ctgaagc 17

<210> 52

<211> 130

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (64)..(124)

<223> D56

The sequence 'ggtgggnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnn n nnnnnnnncaggg' is inserted between positions 64 and 124 and is a duplicate of the sequence between positions 2 and 63

<220>

<221> misc_feature

<222> (9)..(59)

<223> N = nucleotides A, T, G or C

<220>

<221> misc_feature

<222> (70)..(120)

<223> N = nucleotides A, T, G or C

<400> 52

atggtgggnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnca 60

gggggtgggn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnc 120

agggaagggg 130

<210> 53

<211> 15

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(10)

<223> D71

The nucleotides 'GGG' between positions 7 and 10 replace the nucl

eotide 'A'

<400> 53

gtggttgggc tactg 15

<210> 54

<211> 15

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(9)

<223> D75

The nucleotides 'GG' between positions 7 and 9 replace the nucleo

tide 'C'

<400> 54

ttactaggtg gagtt 15

<210> 55

<211> 14

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (6)..(9)

<223> D126

The sequence 'GGG' between positions 6 and 9 replaces the sequenc

e 'AATCAATCAT'

<400> 55

tgggagggag tgga 14

<210> 56

<211> 21

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(15)

<223> D223

The sequence 'GACCCGGC' between positions 7 and 15 replaces the s

equences 'AG'

<400> 56

aagttggacc cggcctctgt g 21

<210> 57

<211> 42

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (15)..(37)

<223> D232

The sequence 'GCCCCCGTCCTGTGAACGCCGC' is inserted between positio

ns 15 and 37

<400> 57

tctgtgaacg ccgcgccccc gtcctgtgaa cgccgcggac ac 42

<210> 58

<211> 17

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(12)

<223> D235

The sequence 'GGAGG' is inserted between positions 7 and 12

<400> 58

gtaaacggag ggccgcg 17

<210> 59

<211> 15

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(9)

<223> D252

The sequence 'TCC' between positions 7 and 9 replace the sequence 'GTATTACTGT'

<400> 59

ggctgttccg cgaga 15

<210> 60

<211> 16

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(9)

<223> D268

The nucleotides 'AGG' between positions 7 and 9 replace the nucle

otides 'GT'

<400> 60

gcgagaaggt attatt 16

<210> 61

<211> 14

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(8)

<223> D332

The nculeotides 'GG' between psoitions 7 and 8 replace nucleotide ' C'

<400> 61

ttattaggta gggc 14

<210> 62

<211> 11

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(9)

<223> D332

The nucleotides AG' between positions 7 and 9 replace nucleotide 'C'

<400> 62

aagggaagca c 11

<210> 63

<211> 14

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (6)..(8)

<223> E51

The nucleotides 'GT' replaces the sequence 'AGGA.51bp.CTTC'

<400> 63

gggcgcgtag tggt 14

<210> 64

<211> 18

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(12)

<223> E51

The sequence AGACC replaces the sequence TGGT.15bp.TACT

<400> 64

tgtttaagac cactggag 18

<210> 65

<211> 15

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(9)

<223> E80

The sequence CCC replaces the nucleotide G

<400> 65

actggaccct tggat 15

<210> 66

<211> 16

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(11)

<223> E263

The sequence GGTG replaces the sequence CGAGAGTTATTACT

<400> 66

actgtgggtg agggcg 16

<210> 67

<211> 15

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(9)

<223> F89

The sequence AGG replaces the sequence GCCAGCCCCAGGG

<400> 67

ggatccagga agggg 15

<210> 68

<211> 15

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(9)

<223> F168

The sequence GGG replaces the sequence AGAGTCGAGT

<400> 68

cctcaagggc accat 15

<210> 69

<211> 17

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(12)

<223> F195

The sequence AGGGC replaces the sequence GTCCAAGAAG

<400> 69

agacacaggg ccacctc 17

<210> 70

<211> 15

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(9)

<223> F199

The sequence CT replaces the sequence AAGAAG

<400> 70

acgtccctac cctga 15

<210> 71

<211> 15

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(9)

<223> F242

The sequence GGA replaces the sequence ACACGGCTGTGTATTACTGT

<400> 71

ccgcggggag cgaga 15

<210> 72

<211> 17

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(12)

<223> F260

the sequence CGTGA replaces the sequence GTG

<400> 72

attactcgtg acgagag 17

<210> 73

<211> 15

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(10)

<223> F264

The sequence ACA replaces the sequence GAGAG.46bp.CGTC

<400> 73

ctgtgcacat ggggc 15

<210> 74

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> B123

The nucleotide A replaces the nucleotide G

<400> 74

gattggaaaa tc 12

<210> 75

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> C109

The nucleotide T replaces nucleotide C

<400> 75

aagggttgga gt 12

<210> 76

<211> 36

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (17)..(31)

<223> Insertion of the sequence GAAGCCTTCGGAGA that duplicates the sequ
ence between position 3 and 16

<400> 76

ttgaagcctt cggactgaag ccttcggaga ccctgt 36

<210> 77

<211> 30

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (15)..(25)

<223> U180
Insertion of sequence ACCATATCAG that duplicates the sequence bet
ween positions 5 and 14

<400> 77

agtcaccata tcaaaccata tcagtagaca 30

<210> 78

<211> 13

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> D45

The sequence GTTTATGGTGGGT is deleted

<400> 78

ctgcgcgcct tca 13

<210> 79

<211> 13

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (8)..(8)

<223> D164

The sequence CAAG is deleted

<400> 79

cgtccccagt cga 13

<210> 80

<211> 13

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (8)..(8)

<223> D216

The sequence AAG.22bp.CGGA is deleted

<400> 80

ctcccttcac ggc 13

<210> 81

<211> 12

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (7)..(7)

<223> E11

The nucleotide 'T' is deleted

<400> 81

gactgtaaag cc 12

<210> 82

<211> 13

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (8)..(8)

<223> E54

The sequence GGG.25bp.GTTG is deleted

<400> 82

ttatggagat ccg 13

<210> 83

<211> 13

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (8)..(8)

<223> F188

The sequence AGACACGTCCAGAA is deleted

<400> 83

tatcagggca cct 13

<210> 84

<211> 13

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (8)..(8)

<223> F220

The sequence TGAGCTCTGTG is deleted

<400> 84

ctgaagcaac gcc 13

<210> 85

<211> 300

<212> DNA

<213> Homo sapiens

<400> 85

cctgcctccg tgtctgggtc tcctggacag tcgatcacca tctcctgcac tggaaccagc 60

agtgacgttg gtggttataa ctatgtctcc tggtaccaac aaaacccagg caaagccccc 120

aaactcatga tttatgatgt cagtaatcgg ccctcaggga tttctaatcg cttctctggc 180

tccaagtctg gcaacacggc ctccctgacc atctctgggc tccaggctga cgacgaggct 240

gattattact gcacctcata tacaaacgac agcaattctc aggtattcgg cggagggacc 300

<210> 86

<211> 427

<212> DNA

<213> Homo sapiens

<400> 86

ggggccgtca ctgattgccg ttttctcccc tctctcctct ccctctccag gttccctggt 60

gcaggcagcg ctgactcagc cggcctcggt gtcagcaaac ccaggagaaa ccgtcaagat 120

cacctgctcc gggggtggca gctatgctgg aagttactat tatggctggt accagcagaa 180

ggcacctggc agtgcccctg tcactgtgat ctatgacaac accaacagac cctcgaacat 240

cccttcacga ttctccggtt ccctatccgg ctccacaaac acattaacca tcactggggt 300

ccgagccgat gacgaggctg tctatttctg tgggaatgca gacaacactg gtgctgcatt 360

tggggccggg acaaccctga ccgtcctagg tgagtcgctg acctcgtctc ggtctttctt 420

cccccat 427

<210> 87

<211> 372

<212> DNA

<213> Homo sapiens

<400> 87

gtgcagctgg tggagtctgg gggaggcgtg gtccagcctg gggggtccct gagactctca 60

tgtgcagcct ctggattcac cgtcagtagc aactacatga cctgggtccg ccaggctcca 120

gggaaggggc tggagtgggt gtcacttatt tatagcggtg gtagcacaac atattacgca 180

gagtccgtga agggccgatt caccatctcc agagacaatt ccaaaaacac gatgtatctt 240

caaatgaaca gcctgagagt agaggacacg gctgtgtatt actgtgcggg agacctgaac 300

agcacctcgg tagggactaa taatttctac atggacgtct ggggcaaagg gaccacggtc 360

accgtctcct ca 372